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STATE OF MONTANA

BULLETIN

OF THE

Department of Public Health

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No. 12

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MONTANA STATE BOARD OF HEALTH

HON. S. V. STEWART, Governor.

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W. F. COGSWELL, M. D., Secretary.

EMIL STARZ, Ph. D.  
State Bacteriologist,

HELENA, MONTANA.

Published Monthly at Helena, by the State Board of Health.

"The science of disease prevention, if properly applied, can add fifteen years to the present average length of human life."—Prof. Irving Fisher, Yale.

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This Bulletin will be mailed monthly to any person in Montana upon request mailed to the Secretary of the State Board of Health at Helena.



## DEPARTMENT OF PUBLIC HEALTH.

### Bureau of Entomology.

At the last meeting of the Montana Legislature a Bill was passed entitled, "An Act to create a State Bureau of Entomology, to define its Powers and Duties and Appropriate Money therefor."

This Bureau is composed of the Secretary of the State Board of Health, the State Veterinarian and the State Entomologist. It is hoped and believed that this Bureau acting under the general supervision of the State Board of Health will be able to bring together and focus the energies of the Federal Bureau of Entomology, the Public Health Service and the Bureau of Animal Industry on the Spotted (Tick) fever in the Bitter Root Valley. If the Bureau is successful in doing this, we feel that we are justified in predicting that in five year's time there will be no spotted fever in the Bitter Root Valley worth considering.

### HOUSE BILL NO. 65.

This Bill was passed and has been signed by the Governor.

\* \* \* \*

A Bill for an Act Entitled: "An Act to Amend Section 1500, Revised Codes of Montana, 1907, Defining the Term 'Communicable Disease.'"

*Be it enacted by the Legislative Assembly of the State of Montana:*

Section 1. That Section 1500 of the Revised Codes of Montana, 1907, be and the same is hereby amended to read as follows:

Section 1500—DEFINITION OF THE TERM "COMMUNICABLE DISEASE"—The term "Communicable disease" as used in this act, shall be understood to include the following diseases: Smallpox, diphtheria, membranous croup, so-called scarlet fever, "Spotted" or "Tick" fever, typhus fever, enteric or typhoid fever, cerebro spinal meningitis, measles, whooping cough, mumps, antero-polio myelitis, or infantile paralysis and tuberculosis and other diseases as the State Board of Health may hereafter designate.

Section 2. All Acts and parts of Acts in conflict herewith are hereby repealed.

Section 3. This Act shall be in full force from and after its passage and approval.

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Physicians are required to immediately report to the local or County Health officer all cases of communicable diseases which they may be called to treat.

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The Office of Dairy Commissioner was created by the last Legislative Assembly. The object in the creation of this office is to promote the Dairy Industry in the State of Montana, and incidentally look after the sanitary conditions in and around the dairies.

While it is important that the Dairy industry of Montana be fostered in order to build up a healthy and prosperous dairy industry in this State, it is necessary that such an industry be founded upon a sanitary basis. People are realizing more and more that a large proportion of the bowel diseases in babies is due to impure milk and that impure milk results from improper handling of the same.

A healthy and prosperous Dairy industry cannot be built up over the graves of dead babies.

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#### A BOY'S REMARKS TO HIS STOMACH.

What's the matter with you—ain't I always been your friend?  
Ain't I been a pardner to you? All my pennies don't I spend?  
In getting nice things for you? Don't I give you lots of cake?  
Say, stummick, what's the matter, that you had to go and ache?

Why, I loaded you with good things yesterday. I gave you more  
Potatoes, squash and turkey than you'd ever had before!  
I gave you nuts and candy, pumpkin pie and chocolate cake—  
And last night when I got to bed you had to go and ache!

Say, what's the matter with you? Ain't you satisfied at all?  
I gave you all you wanted; you was hard just like a ball;  
And you couldn't hold another bit of puddin', yet last night  
You ached mos' awful, stummick; that aint treatin' me just right!

I've been a friend to you, I have; why ain't you a friend of mine?  
They gave me castor oil last night because you made me whine.  
I'm awful sick this mornin', and I'm feelin' mighty blue,  
Becoz you don't appreciate the things I do for you!

—Selected.

#### THE WORST YET.

The doctors gave Mr. Roosevelt tetanus antitoxin. That was not because he had lockjaw, understand—his bitterest enemy wouldn't accuse him of that—but to keep him from having it. The worst thing Mark Twain could think of was to have rheumatism and St. Vitus dance at the same time, but what about lockjaw in a political campaign?

—Health Notes.

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### COMMUNICABLE DISEASES FOR THE MONTH OF FEBRUARY—1913.

**SMALLPOX**—Cases of Smallpox were reported as follows: Great Falls, 5; Custer, 18; Dawson, 2; Flathead (Excl. of Kalispell), 3; Kalispell, 5; Fergus, 5; Gallatin (Excl. of Bozeman), 7; Granite, 4; Hill, 1; Jefferson, 1; Meagher, 3; Missoula (Excl. of Missoula City), 1; Missoula, 5; Musselshell, 4; Sanders, 2; Teton, 3; Silver Bow (Excl. of Butte), 8; Butte, 8; Billings, 1. Total, 86. Total last month, 73. Total February, 1912, 36.

**DIPHTHERIA**—Cases of Diphtheria were reported as follows: Custer, 2; Dawson, 1; Fergus, 1; Meagher, 1; Silver Bow (Excl. of Butte), 1; Butte, 5; Yellowstone (Excl. of Billings), 1; Billings, 1. Total, 13. Total last month, 14. Total February, 1912, 15.

**SCARLET FEVER**—Cases of Scarlet Fever were reported as follows: Beaverhead, 1; Broadwater, 3; Carbon, 2; Great Falls, 4; Fergus, 3; Gallatin (Excl. of Bozeman), 6; Hill, 5; Helena, 1; Lincon, 1; Madison, 4; Missoula (Excl. of Missoula City), 1; Missoula City, 4; Park, 1; Powell, 1; Sweet Grass, 1; Silver Bow (Excl. of Butte), 3; Butte, 13; Valley, 1; Yellowstone, 3. Total, 58. Total last month, 58. Total February, 1912, 70.

**TYPHOID FEVER**—Cases of Typhoid fever were reported as follows: Beaverhead, 1; Carbon, 1; Great Falls, 5; Custer, 3; Chouteau, 4; Dawson, 5; Flathead (Excl. of Kalispell), 1; Fergus, 15; Hill, 1; Park, 1; Billings, 2. Total, 39. Total last month, 21. Total February, 1912, 10.

**MEASLES**—Cases of Measles were reported as follows: Beaverhead, 2; Carbon, 8; Custer, 25; Chouteau, 3; Dawson, 16; Flathead (Excl. of Kalispell), 18; Fergus, 1; Gallatin (Excl. of Bozeman), 4; Jefferson, 2; Madison, 1; Missoula City, 1; Powell, 2; Ravalli, 2; Silver Bow (Excl. of Butte), 8; Butte, 66; Valley, 8; Yellowstone (Excl. of Billings), 2; Billings, 2; Total, 171. Total last month, 43. Total February, 1912, 22.

**BIRTHS (EXCLUSIVE OF STILLBIRTHS\*) REPORTED TO THE STATE  
BOARD OF HEALTH FOR THE MONTH OF FEBRUARY, 1913, AND  
COMPARATIVE BIRTH AND DEATH RECORD IN THE STATE.**

	Males	Females	Totals	Deaths	Excess of births	Excess of deaths
Beaverhead .....	4	4	4	1	7	..
Broadwater .....	5	2	7	4	3	..
Carbon .....	15	13	28	8	20	..
Cascade (Excl. of) .....	8	8	16	7	9	..
Great Falls .....	27	16	43	32	11	..
Chouteau .....	3	3	6	4	2	..
Custer .....	5	6	11	13	..	2
Dawson .....	15	9	24	7	17	..
Deer Lodge (Excl. of) .....	..	..	..	4	..	4
Anaconda .....	9	12	21	15	6	..
Fergus .....	9	9	18	13	5	..
Flathead (Excl. of) .....	12	9	21	10	11	..
Kalispell .....	5	8	13	3	10	..
Gallatin (Excl. of) .....	4	11	15	11	4	..
Bozeman .....	11	9	20	2	18	..
Granite .....	1	1	2	3	..	1
Jefferson .....	2	1	3	3	..	..
Lewis and Clark (Excl. of) .....	2	1	3	4	..	1
Helena .....	9	8	17	18	..	1
Lincoln .....	2	1	3	3	..	..
Madison .....	4	5	9	5	4	..
Meagher .....	4	5	9	5	4	..
Missoula (Excl. of) .....	4	3	7	5	2	..
Missoula City .....	16	8	24	21	3	..
Musselshell .....	8	5	13	3	10	..
Park (Excl. of) .....	1	3	4	2	2	..
Livingston .....	5	6	11	10	1	..
Powell .....	3	6	9	9	..	..
Ravalli .....	10	7	17	10	7	..
Rosebud .....	5	1	6	2	4	..
Sanders .....	5	3	8	4	4	..
Silver Bow (Excl. of) .....	13	8	21	16	5	..
Butte .....	37	31	68	85	..	17
Sweet Grass .....	5	3	8	2	6	..
Teton .....	20	15	35	14	21	..
Valley .....	8	5	13	12	1	..
Yellowstone (Excl. of) .....	9	14	23	11	12	..
Billings .....	14	22	36	15	21	..
Blaine .....	2	3	5	2	3	..
Hill .....	15	12	27	10	17	..
Big Horn .....	1	..	1	1	..	..
TOTAL .....	337	296	633	409	240	26

\* Number of Stillbirths, 23.



**DEATHS (EXCLUSIVE OF STILLBIRTHS) REPORTED TO THE STATE  
BOARD OF HEALTH FOR THE MONTH OF FEBRUARY, 1913,  
ARRANGED ACCORDING TO COUNTIES AND  
PRINCIPAL CITIES.**

Totals	All Other Causes	Alcoholism	Suicide	Violence	Acute Intestinal Diseases	Malignant Tumors	Organic Heart Disease	Nephritis	Pneumonia	Whooping Cough	Meningitis	Typhoid Fever	Measles	Scarlet Fever	Diphtheria	Tuberculosis	Small Pox	Spotted Fever
Beaverhead	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Broadwater	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Carbon	8	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cascade (Excl. of)	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Great Falls	32	15	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chouteau	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Custer	13	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Dawson	4	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Deer Lodge( Excl. of)	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Anaconda	15	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Fergus	13	10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flathead (Excl. of)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Kallispell	10	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gallatin (Excl. of)	11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Bozeman	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Granite	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Jefferson	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lewis and Clark (Excl. of)	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Helena	18	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Lincoln	3	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Madison	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Meagher	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Missoula (Excl. of)	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Missoula City	21	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Musselshell	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Park (Excl. of)	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Livingston	10	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Powell	9	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ravalli	10	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rosebud	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sanders	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Silver Bow (Excl. of)	4	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Butte	85	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sweet Grass	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Teton	12	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Valley	14	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Yellowstone (Excl. of)	12	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Billings	11	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Blaine	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hill	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Big Horn	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTALS	409	131	8	22	6	16	51	21	81	1	8	3	1	2	1	48	1	..

Estimated Population	375,000.
Monthly death rate per 1,000 population	.916.
Annual death rate per 1,000 population	10.99.

## DIVISION OF FOODS AND DRUGS.

Dr. W. F. Cogswell, Secretary, State Board of Health,  
State Food and Drug Commissioner.

F. J. O'Donnell, Inspector.

### Laboratory Staff.

W. M. Cobleigh, Chemist.

C. E. Mollet, Director, Drug Analysis.

D. L. Weatherhead, Analyst.

D. B. Swingle, Bacteriologist.

Carl Gottschalck, Assistant in Chemistry.

Ella Olson, Clerk and Stenographer.

### LABORATORY REPORT.

By W. M. Cobleigh, Chemist, and D. L. Weatherford, Analyst.

Foods and Water Analyzed During the Months of January and February, 1913.  
SUMMARY.

CLASSIFICATION.	Number Legal	Number Illegal	Total
Foods.			
Bottle beverages .....	10	30	40
Candy .....	7	2	9
Chinese sause for noodles .....	1	..	1
Cream .....	3	1	4
Milk .....	9	20	29
Salt .....	1	..	1
Total .....	32	53	84
Water.			
Samples contaminated .....			28
Samples not contaminated .....			9
Total .....			37
TOTALS .....	..	..	121

**MILK AND CREAM—STANDARD OR ABOVE.**

Lab. No.....	Date.....	Obtained From...	Town.....	Total Solids— Percentage.....	Solids not Fat— Percentage.....	Fat— Percentage.....
1569	11-20-12	Mrs. Maximer ....	Bozeman .....	12.32	8.77	3.55
1636	1- 6-13	Clifford McLeod ...	Livingston .....	13.82	9.62	4.20
1634	1- 6-13	H. J. A. Titus.....	Livingston .....	13.57	9.57	4.00
1632	1- 6-13	A. Laurens & Son..	Livingston .....	14.21	9.41	4.80
1641	2- 5-13	H. E. Heath .....	Butte .....	11.92	8.52	3.40
1643	2- 5-13	Meadow Gulch Dairy	Butte .....	12.83	9.13	3.70
1646	2- 5-13	Ernest Cicolini .....	Butte .....	13.68	9.38	4.30
1648	2- 5-13	Godfrey Roesti.....	Butte .....	12.94	8.54	4.40
1649	2- 5-13	W. R. Wise.....	Butte .....	12.40	8.60	3.80

**CREAM.**

1633	1- 6-13	A. Laurens & Son	Livingston .....	.....	.....	32.5
1635	1- 6-13	H. Titus .....	Livingston .....	.....	.....	23.9
1638	1- 6-13	Mrs. G. K. Webster	Bozeman .....	34.34	.....	29.0

Total, 12.

**CREAM AND MILK—BELOW STANDARD.**

Lab. No.....	Date.....	Obtained From	Town.....	Remarks.....
1637	1- 7-13	Clifford McLeod .....	Livingston	(Cream) Low in Fat.
1639	2- 5-13	J. P. Riley .....	Butte .....	Low in solids not fat.
1640	2- 5-13	A. Martini Dairy ...	Butte .....	Low in fat and solids.
1642	2- 5-13	Western Creamery ..	Butte .....	Low in solids not fat.
1644	2- 5-13	M. Courtney Dairy ..	Butte .....	Low in fat and solids.
1645	2- 5-13	W. T. Bryne .....	Butte .....	Low in fat.
1647	2- 5-13	J. M. Harper .....	Butte .....	Low in fat.
1650	2- 5-13	J. Lamberton .....	Butte .....	Low in fat.
1651	2- 5-13	J. W. Leedom .....	Butte .....	Low in solids not fat.
1652	2- 5-13	Parker & Woyatzek	Butte .....	Low in fat.
1653	2- 5-13	John Kennoffel .....	Butte .....	Low in solids not fat.
1654	2- 5-13	Joe Boulet ..	Butte .....	Low in fat.
1655	2- 5-13	Staikos Bros. ....	Butte .....	Low in fat and solids.
1656	2- 5-13	Buller Bros. ....	Butte .....	Low in fat and solids.
1681	2- 8-13	Independent Dairy ..	Butte .....	Low in solids not fat.
1682	2- 8-13	E. Manion .....	Butte .....	Low in fat and solids.
1683	2- 8-13	Hong Kong Cafe ....	Butte .....	Low in fat and solids.
1684	2- 8-13	Berti Bros. ....	Butte .....	Low in fat and solids.
1685	2- 8-13	N. P. Lunch Counter	Butte .....	Low in fat and solids.
1686	2- 8-13	P. Antonioli .....	Butte .....	Low in fat and solids.
1687	2- 9-13	Travellers' Cafe.....	Bozeman...	Low in fat.

Total, 21.



## CANDY.

By D. L. Weatherhead.

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The definition of the term "food" as used in the Montana Food and Drug Act includes confectionery. Therefore, the provisions of the law relating to foods in general apply to candy too. There is also the following regulation referring especially thereto:

"Candy is a product made from saccharine substance, or substances with or without the addition of harmless coloring, flavoring or filling materials, and contains no terra alba, barytes, talc, chrome yellow, or other mineral substances, or poisonous colorings or flavors, or other ingredients deleterious or detrimental to health, or any vinous, malt, or spiritous liquor or compound or narcotic drug."

The manufacturing of candy represents a large and important industry. For years the consumption of candy has been constantly increasing due in part to an increased recognition of its value as a wholesome article of food and also in part, probably, to the improved quality and variety that has been developed, especially in the chocolate industry. Formerly, candy was little eaten by adults and not nearly as constantly by children as now.

Candy is little adulterated with harmful substances. The use of mineral substances to color, coat, or size is practically discontinued. The use of deleterious substances as flavor or color is also rare.

Children as a rule buy the cheaper candies as they receive a larger amount for their money. Such goods are made largely with glucose, and sugar as sweetner and seldom contain harmful substances. Such deleterious substances as benzaldehyde in "peach" flavors and amyl acetate in "banana" flavors are found at times, but usually in slight amounts so that sickness results only after eating large amounts. The acid flavors if eaten in relatively large amounts also cause "sour stomach."

Probably the most dangerous adulteration, which is also found chiefly in cheap candies is the coating of candy with shellac, especially shellac containing arsenic. Of course, this

is obviously deleterious though the amounts present might be so small as to make it necessary to eat a large amount before a fatal issue could arise from their cause. However, it is a harmful and uncalled for adulteration and not permissible.

Paraffine is also used in chocolate coatings, sometimes to make them stiffer. This is an adulteration as the paraffin may hinder digestion or at best is an inert substance and gives a deceptive stiffness to the coating.

The chief danger in the cheaper candies arises from unclean goods or such as have been handled or produced under unsanitary conditions. The dirt and dust which may collect on the candy, as well as any other food product, or which may be incorporated in it during handling may be a serious source of danger especially for infectious diseases. The handling which the child gives the candy is as important a factor as that which the dealer gives it and for that reason candies, made in the form of play things, etc., which are supposed to have a "duel" purpose, that of a plaything and confectionery are not desirable and their manufacture should be discouraged.

The more expensive candies, the chocolates and cream goods, are in general made of the best materials, high quality sugar being used with only enough glucose to prevent crystalization of the creams and fillings.

While candy is almost entirely free from harmful adulterations there are a few practices which are in the nature of slight deceptions. As candy is an entirely artificial product, the use of coloring can not be considered an adulteration if used for coloring purposes only and does not imitate any natural source of flavor or ingredients. If, however, coloring is used to imitate a natural fruit when the fruit itself can be used, there is deception, as in a "raspberry chocolate cream." The color of the "cream" should be derived from the color of the raspberry fruit which is ground and mixed with the "cream." If the flavor and color in such a product be artificial, the label should state the fact.

Some cheaper candies are made to imitate a chocolate product by using brown sugar and an artificial brown color, adding at times also cocoa butter. While these are sold at a

price below that of chocolate goods, yet a certain deception is perpetrated.

Sometimes starch is used in gum drops in place of the gums or gelatin, which formerly were always used. This is also a deception.

While the deceptions are less serious than in other foods, since candy is not a staple of the diet but used as a luxury, and therefore, if it pleases it serves its purpose as long as it is not harmful, yet they are, never-the-less, deceptions and should not be practiced.

Candy, if it contains fruits and nuts, must be carefully protected from insects and unsanitary conditions or rancidity will develop. They should also be protected from flies and dirt, otherwise they soon become unsanitary and unwholesome.

It might be well for users of candy to remember that candy which in itself is wholesome as a food, is nevertheless a strong food stuff with a high nutritive value and if eaten at any and every time of the day has the same effect on general digestion as any other food eaten constantly, especially between meals.

CANDY.

Lab. No.....	Date.....	Bought for....	Obtained from.	Remarks.....
1531	11-11-12	Pail candy	S. Williams, Helena .....	No adulteration found.
1532	11-11-12	Candy ...	Reinig Co., Helena .....	No adulteration found.
1533	11-11-12	Chocolates	Gamer's Candy Co., Helena	No adulteration found.
1534	11-11-12	Chocolates	Brazier Candy Co., Helena	No adulteration found.
1535	11-11-12	Candy ...	Chas. Reibold, Helena ...	No adulteration found.
1536	11-11-12	Bonbons...	J. F. Smith, Helena ..	Contains non-permitted coal tar dyes.
1537	11-11-12	Chocolates	J. F. Smith, Helena ..	No adulteration found.
1538	11-11-12	Candy ....	S. Williams .....	Contains non-permitted coal tar dyes.
1539	11-11-12	Chocolates	R. C. Wallace .....	No adulteration found.

BOTTLED CARBONATED BEVERAGES.

By D. L. Weatherhead.

The term "food" as defined by the Montana Food and Drug Act includes the bottled carbonated beverages. There is no special part of the law referring to them, but the general provisions relating to adulteration and misbranding apply. These beverages were originally made by flavoring a syrup with

some fruit as cherries, strawberries, or some other natural flavor as vanilla, lemon and orange extracts, root beer, birch beer, sarsaparilla, etc., and charging the syrup so flavored with carbon dioxide gas.

At present, the natural flavors are replaced by artificial ones in many cases. Vanillin or vanellin and coumarin are used in vanilla pop. Terpeneless lemon and orange oils are used in lemon and orange sodas. The fruits in the sodas bearing their name as strawberry, cherry, raspberry, etc., sodas, have been replaced by artificial substances containing some of the same or similar principles which give a flavor imitating that of the real fruit. In all these cases and also sometimes in cases where the true fruit is used, citric acid or tartaric acid or both are added to give acidity and to bring out the flavor more decidedly.

Ginger ale was originally flavored with ginger or ginger extract with the addition of lemon juice or lemon oil and citric acid. Capsicum is now frequently substituted wholly or in part for the ginger, because of its greater pungency. It is more fiery and less expensive than the ginger and does not possess the better qualities of the ginger which do not depend on its irritating effects. Birch beer, which formerly was made by fermentation is now a soda flavored with oil of birch or synthetic methyl salicylate. Sarsaparilla is flavored with oil of birch and oil of sassafras. An artificial color is added to any of these to give the desired color or one imitating the natural substance.

While these substitutes are usually harmless, they nevertheless are misleading and a product so made should be labeled to show the artificial color and flavor or be called an imitation. At times also harmful colors and flavors are so used in these artificial products.

More serious adulteration, however, is the sweetening with saccharin in place of sugar. The sugar in the beverages gives them a food value as well as a pleasant taste. If saccharin is used to replace it, wholly or in part, a deleterious substance is introduced and the quality of the product is lowered as

saccharin does not possess any food value. Its use is therefore a violation of the law.

The common opinion is that when soda water is opened, if it is of good quality a good froth is produced as the gas escapes. A soda containing plenty of sugar will froth better than one that is thin. Manufacturers therefore very often add an extract of soap bark, which will produce a good foam. This practice is deceptive and also harmful since the soap bark contains poisonous substances.

Manufacturers of carbonated beverages often buy flavors already put up. These may contain saccharin, harmful colors and soap bark extract already mixed with the flavors, sugar, acids, etc. Manufacturers using these, knowingly or not, assume the responsibility for the presence of the adulterations in their products and should be careful to see that such preparations are alright before using them. There are a large number of natural colors which are harmless such as caramel, orchil, cochineal, etc. There are also seven coal tar colors which have been tested and found harmless. With these any desired color can be produced with the assurance of wholesomeness.

**BOTTLED BEVERAGES.**  
**Adulterated or Misbranded.**

Lab. No.	Date.	Description.	Remarks.
1658	2-7-13	Lemon Soda. On label: Rocky Mountain Bottling Works, Butte, Montana.	Contains saccharin.
1659	"	Root Beer. On label: Rocky Mountain Bottling Works, Butte, Mont. On cap: Root Beer, artificial flavor and color.	Contains saccharin.
1661	"	Strawberry soda. On label: Rocky Mountain Bottling Works, Butte, Mont. On cap: Strawberry—artificial flavor and color.	Contains saccharin.
1662	"	Sarsaparilla Soda. On label: Rocky Mountain Bottling Works, Butte, Mont. On cap: Sarsaparilla—Artificial flavor and color.	Contains saccharin.
1663	"	Iron Brew. On label: Rocky Mountain Bottling Works, Butte, Montana.	Contains saccharin.
1664	"	Cream Soda. On label: Cream Soda. Artificial flavor and color. Rocky Mountain Bottling Works, Butte, Mont.	Contains saccharin.
1665	"	Cream Soda. On label: Cream Soda. Northwestern Bottling Works, Butte, Mont.	Contains saccharin.



Lab. No.	Date.	Description.	Remarks.
1666	"	Sarsaparilla Soda. On label: Northwestern Bottling Works, Butte, Mont. Sarsaparilla.	Contains saccharin.
1667	"	Strawberry Soda. On label: Strawberry. Northwestern Bottling Works, Butte, Mont.	Contains saccharin.
1668	"	Ginger Ale. On label: Registered Hyball Ginger Ale. Northwestern Bottling Works, Butte, Mont.	Contains saccharin and capsicum.
1669	"	Iron Brew. On label: Northwestern Bottling Works, Butte, Mont. Special Brew Iron.	Contains saccharin.
1670	2- 6-13	Cider. On label: Pure Sparkling Champagne Cider. Northwestern Bottling Works, Butte, Mont.	Contains salicylic acid. No saccharin.
1671	"	Lemon Soda. On label: Com-pounded lemon flavored soda. Northwestern Bottling Works, Butte, Mont.	Contains saccharin.
1672	"	Lemon Soda. On Label: Keeman Manufacturing Co., Butte, Mont.	Contains saccharin.
1673	"	Cream Soda. On label: Keeman Manufacturing Co., Butte, Mont.	Contains saccharin.
1674	"	Sarsaparilla Soda. On label: Keeman Manufacturing Co., Butte, Mont.	Contains saccharin.
1675	"	Strawberry Soda. On label: Keeman Manufacturing Co., Butte, Mont.	Contains saccharin.
1676	"	Cream Soda. On label: Holland Rink Bottling Works, Butte, Montana.	Contains saccharin.
1677	"	Lemon Soda. On label: Holland Rink Bottling Works, Butte, Mont.	Contains saccharin.
1678	"	Soda Water. Root beer flavor. On label: Holland Rink Bottling Works, Butte, Mont.	Contains saccharin.
1679	"	Strawberry Soda Water. On label: Holland Rink Bottling Works, Butte, Mont.	Contains saccharin.
1680	"	Sarsaparilla Soda Water. On label: Holland Rink Bottling Works, Butte, Mont.	Contains saccharin.
1696	2-19-13	Strawberry. On label: Strawberry Soda. Quality unexcelled, a most refreshing and palatable beverage. Bottled by Chas. Geis, Great Falls, Mont. On cap: Artificial color and flavor.	Contains saccharin.
1698	"	Raspberry Soda. On label: Raspberry Soda. Bottled by St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Misbranded. Contains artificial flavor and color, and the fact is not stated on label.
1700	2-18-13	Ginger Ale. On label: Ginger Ale. St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Contains capsicum. Contains artificial color —not on label.
1701	2-19-13	Strawberry Soda. On label: Strawberry Soda. Bottled by St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Contains artificial color and flavor—not on label.
1702	"	Root Beer. On label: Root Beer. Bottled by St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Contains artificial color—not stated on label.
1704	"	Lemon Soda. On label: Lemon Soda. Bottled by St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Contains artificial flavor—not stated on label.
1705	"	Cream Soda. On label: Cream Soda. Bottled by St. Louis Bottling Works. Nick Baatz, Prop., Great Falls, Mont.	Contains artificial color—not stated on label.

Lab. No.	Date.	Description.	Remarks.
1699	"	Birch Beer. Nick Baatz, Great Falls, Montana. On label: Birch Beer Aromatic. Liquid Carbonic Acid Manufacturing Co.	Contains artificial color—not stated on label.
1688	2-18-13	Root Beer. R. Jorginson, Great Falls, Mont. On label: Root Beer. On cap: Root Beer, Artificial color and flavor.	No saccharin.
1689	"	Lemon Soda. R. Jorginson, Great Falls, Mont. On label: Sparkling Lemon Soda. On cap: Lemon Soda—Artificial color and flavor.	No saccharin.
1690	"	Ginger Ale. R. Jorginson, Great Falls, Mont. On label: Golf Ginger Ale—The best of all. On cap: Ginger Ale, Artificial color and flavor.	No saccharin.
1691	"	Raspberry Soda. R. Jorginson, Great Falls, Mont. On label: Raspberry Artificially colored and flavored—Wholesome—Delicious.	Bottle broken. Sample lost.
1692	"	Strawberry Soda. R. Jorginson, Great Falls, Mont. On label: Strawberry—Artificial color and flavor. Delicious and Wholesome. On cap: Artificial color flavor.	No saccharin. Colors: Amaranth, Orchil, permissible.
1693	"	Cream Soda. R. Jorginson, Great Falls, Mont. On label: Sparkling Aromatic Cream Soda. On cap: Artificial color and flavor.	No saccharin.
1694	"	Ginger Ale. On label: Ginger Ale, Quality unexcelled—A most refreshing and palatable beverage. Bottled by Chas. Geis, Great Falls, Mont. On cap: Artificial color and flavor.	No saccharin. Color: Naphthol Yellow S., permissible.
1695	"	Cream Soda. On label: Cream Soda. Quality unexcelled—A most refreshing and palatable beverage. Bottled by Chas. Geis, Great Falls, Mont. On cap: Artificial color and flavor.	No saccharin.
1697	2-18-13	Lemon Soda. On label: Lemon Soda. Quality unexcelled. A most refreshing and palatable beverage. Bottled by Chas. Geis, Great Falls, Mont. On cap: Artificial color and flavor.	No saccharin.
1703	"	Coco Cola. On label: Coco Cola. Bottled under authority of Coco Cola Co., Atlanta, Ga. A. Sol. Candlern, pt. On cap: Coca Cola—Trade mark registered—(Nick Baatz, Great Falls, Mont.)	No saccharin.

## CARE IN HANDLING DAIRY PRODUCTS.

(By R. C. Jones, Dairy Dept., Montana Agricultural College.)

A short time ago a sample of cream was referred to me by the chemist of the State Board of Health for my opinion. The sample appeared chalky and had a peculiar taste. This chalky or flaky appearance had in all probability been brought about by the cream having been frozen and thawed several times. The peculiar flavor was that of decidedly unclean cream. Often the consumer not being familiar with these flavors mistakes them for preservatives. It might be a question whether one is more detrimental to health than the other.

The fact remains, however, that milk and its products absorb flavors and odors very readily, making extreme care and cleanliness necessary in their handling. A dairyman putting out clean milk will have no need for preservatives and will find that the flavor will, in almost every case, be all right. Milk and cream produced under strictly sanitary conditions has been known to keep for three weeks, retaining a fresh flavor and showing a very low bacterial count.